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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,115	02/10/2004	Yoshinori Iwaizono	28569.7436	2114
20322 7590 10/15/2007 SNELL & WILMER L.L.P. (Main) 400 EAST VAN BUREN ONE ARIZONA CENTER PHOENIX, AZ 85004-2202			EXAMINER BARAN, MARY C	
			ART UNIT 2857	PAPER NUMBER
			MAIL DATE 10/15/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/708,115

Applicant(s)

IWAIZONO, YOSHINORI

Examiner

Mary C. Baran

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The action is responsive to the Amendment filed on 7 August 2007. Claims 1-5 are pending. Claim 1 is amended. Claim 5 is new.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takano et al. (U.S. Patent No. 6,114,839) (hereinafter Takano) in view of Franklin (U.S. Patent No. 5,240,022).

Referring to claim 1, Takano teaches a secondary battery control circuit (see Takano, Abstract), comprising:

a liquid detection section for detecting infiltration or generation of a liquid inside a secondary battery or inside a battery pack in which the secondary battery is installed (see Takano, column 8 lines 1-10 and lines 38-45);

and a control section for interrupting charging/discharging of the secondary battery in a case where a liquid is detected by the liquid detection section (see Takano, column 8 lines 38-56),

wherein the liquid detection section controls the control section (see Takano, column 8 lines 38-56) based on impedance or resistance value detected between two terminals (see Takano, column 7 line 66 – column 8 line 10 and Figure 1 “2b” and “2d”), but does not teach two electrically separated terminals, wherein an amount of an electrical current flowing through each of the terminals approaches zero, unless the liquid is detected by the liquid detection section.

Franklin teaches two electrically separated terminals (see Franklin, Figure 6 leak detection probes 18 and 19), wherein an amount of an electrical current flowing through each of the terminals approaches zero, unless the liquid is detected by the liquid detection section (see Franklin, column 10 lines 12-36).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Takano to include the teachings of Franklin because maintaining a low current unless a liquid is present would have allowed the skilled artisan to determine a leakage condition (see Franklin, column 10 lines 33-36).

Referring to claim 2, Takano teaches a temperature detection section for detecting a temperature of the secondary battery (see Takano, column 8 lines 51-56), wherein the control section controls charging/discharging of the secondary battery based on the temperature detected by the temperature detection section (see Takano, column 8 lines 57-67).

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3. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takano et al. (U.S. Patent No. 6,114,839) (hereinafter Takano) in view of Franklin (U.S. Patent No. 5,240,022) and in further view of Darmawaskita (U.S. Patent No. 6,184,659).

Takano and Franklin teach all the features of the claimed invention except that the secondary battery control circuit is formed on a single semiconductor chip.

Darmawaskita teaches that the secondary battery control circuit is formed on a single semiconductor chip (see Darmawaskita, column 4 lines 25-30).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Takano and Franklin to include the teachings of Darmawaskita because forming the control circuit on a single chip would have allowed the skilled artisan to easily implement a battery charger design and reduce the component count thereof (see Darmawaskita, column 4 lines 38-41).

Takano and Franklin teach all the features of the claimed invention except that the single semiconductor chip is enclosed in a sealing section of the secondary battery.

Darmawaskita teaches that the single semiconductor chip is enclosed in a sealing section of the secondary battery (see Darmawaskita, column 12 lines 38-56).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Takano and Franklin to include the teachings of Darmawaskita because enclosing the semiconductor chip in a sealing section of the secondary battery would have allowed the skilled artisan to prevent leakage outside of the sealed section.

Allowable Subject Matter

4. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

6. Applicant's arguments filed 7 August 2007 have been fully considered but they are not persuasive.

Applicant argues that Takamo does not teach "electrically separate terminals". However, this limitation is now met by the teachings of Franklin. Franklin teaches two probes 18 and 19, used for leakage detection which are electrically separate (see Franklin, Figure 6). Therefore, Takamo teaches electrically separate terminals (see Franklin, Figure 6 "probes 18 and 19").

Applicant argues that Takamo does not teach that "an amount of an electrical current flowing through each of the terminals approaches zero, unless the liquid is detected by the liquid detection section". However, this limitation is now met by the teachings of Franklin. Franklin teaches two detection probes which conduct current when a leakage condition is present (see Franklin, column 10 lines 12-36). Therefore, Franklin teaches that an amount of an electrical current flowing through each of the

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terminals approaches zero, unless the liquid is detected by the liquid detection section (see Franklin, column 10 lines 12-36).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary C. Baran whose telephone number is (571) 272-2211. The examiner can normally be reached on Monday to Friday 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571) 272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mary Catherine Baran

